

Work Order ID 140671***140671***

Page 1

Item ID: 646.9410

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Shim

Start Date: 1/13/2016 Start Qty: 50.00

Required Date: 1/22/2016 Req'd Qty: 50.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: mfDate: 15-1-13

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

646.9400

NC

0.00

100

Purchasing

Memo

0.00

DAS
13
9-89

JAN 14 2016

100

Purchasing

ISSUE P/O: 31002

POSSIBLE SUPPLIER : ALOMA SHIM

MANUFACTURE AS PER DWG 646.9410

CERTIFICATE OF CONFORMATY IS REQUIRED

110

Receive & Inspect for Damage & Mat'l Certs

0.00

110

Packaging

Memo

0.00

Packaging

100 16/03/30 CL

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																																																								
Description Work Order Deviation				Disposition				Completed By																																																							
								Lead hand / Supervisor Approval Verification																																																							
								QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____	
Misidentified ☐	Past Due ☐																																																														

Work Order ID 140671***140671***

Page 2

Item ID: 646.9410

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Shim

Start Date: 1/13/2016 Start Qty: 50.00

50

Cust Item ID:

Required Date: 1/22/2016 Req'd Qty: 50.00

50

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

MAR 31 2016

130

Identify as per dwg & Stock Location

0.00

130

Packaging

Memo

0.00

Packaging

APR 02 2016

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

APR 05 2016

APR 04 2016

Picklist Print

Wednesday, January 13, 2016 11:36:47 AM

Page 1

Work Order ID: 140671

140671

Parent Item: 646.9410

646 9410

Parent Item Name: Shim

Start Date: 1/13/2016

Required Date: 1/22/2016

Start Qty: 50.00

Required Qty: 50.00

Comments: IPP REV:A 16.01.08 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
646.9410P *646 9410P* Shim		Purchased	No				Each	0.0000	**	⁵⁰ 100		MAR 3 1 2016	DAS 13 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

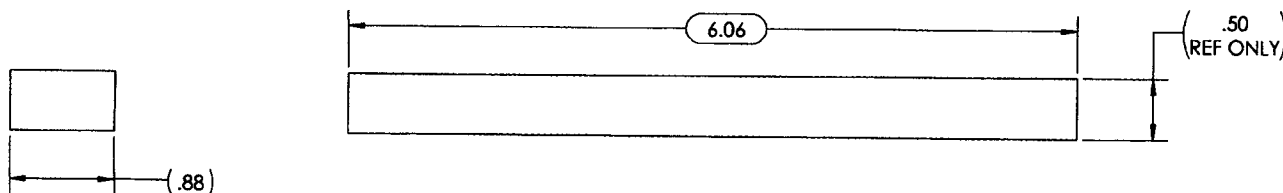
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES DBA DART AEROSPACE. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES DBA DART AEROSPACE IS PROHIBITED.

NOTES:

- 1 MATERIAL: LAMINATED ALUMINUM 1100 ALLOY SHIM STOCK WITH .003" LAYER THICKNESS, 1100-H19 PER QQ-A-250/1.
- 2 FINISH: NONE.
- 3 IDENTIFY PER MPP-120. BAG AND TAG.
- 4 0.50" DIMENSION IS FOR REFERENCE ONLY. SHIM TO BE SIZED AS NECESSARY FOR INSTALLATION.

*CMF
140671*



1	1	646.9410	SHIM		
FIND #	PART #	DESCRIPTION	MAT'L	SPEC.	
QTY	PARTS LIST				
NEXT ASSY (S)	ORIGINAL DATE (DD-MY-YY)	DRAWN BY	CHECKER	DATE	
646.4000	12/07/15	J. BECKER	J. GARDNER	12/07/15	
DRAWING APPROVAL		F. BRAVO			
CONTRACT NO.					
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°					
DART AEROSPACE APICAL INDUSTRIES INC. DBA DART AEROSPACE			3030 ENTERPRISE CT., SUITE A VISTA, CA 92081 (760)-724-5300		
SHIM					
SER	CAGE CODE	DWG. NO.	REV.		
B	07ML6	646.9400	N/C		
SCALE NONE			SHEET 1 OF 1		

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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☐ OTHER : _____					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO31002

Purchase Order Date 1/14/2016

PO Print Date 1/14/2016

Page Number 1 of 2

Order From : VU-ALO001

ALOMA SHIM AND MANUFACTURING CO.
P.O.BOX 246 OAKMONT
PA, PA 15147
USA

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
JAN 14 2016

Contact Name

Vendor Phone

412-828-8660

Ship To Contact

Ship To Phone

Ship Via:

FedEx Overnight

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

Destination-Collect

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	646.9410P	Shim	2/11/2016 Yes 2/11/2016	FN	100.00 Each	\$7.27	\$727.00
	AS PER DWG 649.9410 REV. N/C B140671 ALOMA P/N: R-6.06X.880XAL.500						

C216/03/30

Line Total: \$727.00

2 71401-45 PROCUREMENT
QUALITY CLAUSES

2/11/2016

1.00

\$0.00

\$0.00

No

2/11/2016

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

DAS
29
9-89

APPROVAL

Note:

1/14/2016



Aloma Shim and Manufacturing Co
Bill To: PO Box 246 Oakmont PA 15139
Ship To: 15 Plum Street Verona PA 15147

Phone: 800-736-7662
Fax: 412-828-7280

Ship Date: 3/28/2016

Page: 1 of 1

Pack Slip: 260277



ing Slip

Ship To:

Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury ONTARIO K6A 1K7
Canada

Phone: 613-632-9577
Fax: 613-632-1053
clavoie@dartaero.com

Sold To:

Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury ONTARIO K6A 1K7
Canada

Phone: 613-632-9577
Fax: 613-632-1053
clavoie@dartaero.com

Your PO:



PO31002

Sales Order:
97443

Terms: Net 30 Days

Ship Via: Fedex Overnight
F.O.B.: Collect

SO Line	Part Number/Description	Location	PO Line
Release	Planned Qty	Shipped Qty	

FEDEX OVERNIGHT ACCT # 15179324.0

MATERIAL CERTS AND C OF REQUIRED WITH SHIPMENT. - SEE ATTACHED QUALITY DOCUMENTS

1 - 1 R-6.06X.880XAL.500

646.9400 .500 Alum .003 Lams
100.00 EA

100.00

EA

Your PO Part: 646.9410P

Rev:



C2 16/03/30



PO Box 246 Oakmont, Pa. 15139 Toll Free: 1-800-736-7662 Fax: 412-828-7280
www.aloma.com E-mail: sales@aloma.com

Certificate of Conformance

Date: March 28, 2016

Customer: Dart Aerospace Ltd
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7

Reference: PO #PO21002

Item: Shim, .500 thick, Comp 1=Aluminum 1100H-19
Type 1=All Laminated, Class 2=.003 Laminations

Drawing: 649.9410 Rev N/C

Quantity: 100

Heat/Lot #42054750

Country of Origin: USA

This document hereby certifies that the above referenced item was manufactured in accordance with Aloma QM Manual dated 02/01/12 Rev B and conforms to the referenced purchase order requirements.

Sincerely,

Gwenna Carson
Quality Coordinator

TK Innovation, Inc.

3 Industrial Park Dr., PO Box 6583 Wheeling, West Virginia 26003
ph (304) 639-7885 fax (304) 232-1766 tkinnovation1@verizon.net
www.tkishlms.com

Certificate of Conformance

Customer: Aloma Shim & Manufacturing Date: 2/11/2016
Purchase Order: 42696
Item: 2 of 2 Order Control No. 7409
Quantity: 1
Part Number: 112.50024x48

Composition
Type
Class
Thickness

1 - Aluminum 1100
1 - All Laminate
2 - .003
.500

Specification:

AMS-DTL-22499

PO	LOT	MILL
3AL1100	42054750	JW Aluminum

* The material used in the manufacture of the above product complies with DFARS edition 1998, section 252.225.7001, -7007, -7009, -7012, and -7014.

* Where applicable, material currently complies with the requirements of REACH and RoHS.

* DRC Conflict Free.

* Product has been manufactured in the United States of America.

* TKI complies with the regulations of ITAR and does not share any controlled information and/or materials with any non-US person or group.

* TKI Production, Storage, and Testing Facilities are free of Mercury contamination.

Notes:

This is to hereby certify that this item has been manufactured, tested and accepted in accordance with the designated specification and contract purchase order.

All relevant test results and documentation are available for review upon request.

Authorized Signature: _____



Williamsport Operations
2475 Trenton Avenue
Williamsport, PA 17701

Certification of Analysis

Customer : Tk Innovation Inc

Sales Order : 4008633

Part Number: 3000006994

Customer PO#: 3AL1100

Description: 1100_H19_0.003_24_BARE_MILL FINISH_DFARS_

This certifies that the material, processing, and testing used in fabrication of this product meets the requirements of the purchase order and the Aluminum Association Standards.

Additional applicable industry standard(s) as listed below:

Applicable For Material On Delivery# 1338852

DS00174613	42054750-6	42054750
DS00174614	42054750-9	42054750
DS00174613	42054750-7	42054750
DS00174612	42054750-8	42054750
DS00174612	42054750-5	42054750
DS00174611	42054750-4	42054750
DS00174611	42054750-3	42054750
DS00174610	42054750-2	42054750
DS00174617	42054750-16	42054750
DS00174617	42054750-15	42054750
DS00174616	42054750-14	42054750
DS00174616	42054750-13	42054750
DS00174615	42054750-12	42054750
DS00174615	42054750-11	42054750
DS00174614	42054750-10	42054750
DS00174610	42054750-1	42054750

DFARS 225.1

Chemical Analysis Of Alloy

	Si	Fe	Si+Fe	Cu	Mn	Mg	Ti	Zn	V	Al	Others (Max Ea.)	Others (Total)
11960536	0.119	0.515	0.634	0.117	0.001	0.001	0.017	0.001	0.012	99.22		

June 29, 2015

PO 3AL1100 Lot# 42054750 ASTM B209 rev. 14



Mechanical Properties

	Tensile (Ksi)
42054750	28.1

Dimensional Test Of Items

	AVG_GAUGE
42054750-1	0.002860
42054750-10	0.002945
42054750-11	0.002932
42054750-12	0.002932
42054750-13	0.002957
42054750-14	0.002957
42054750-15	0.002988
42054750-16	0.002988
42054750-2	0.002960
42054750-3	0.003020
42054750-4	0.003020
42054750-5	0.002888
42054750-6	0.002888
42054750-7	0.003010
42054750-8	0.003010
42054750-9	0.002945

Additional Specification for 3000006994 item is -DFAR's and Chemistry as established by ASTM B209 rev.14

June 29, 2015

PO 3AL1100 Lot# 42054750 ASTM B209 rev. 14

